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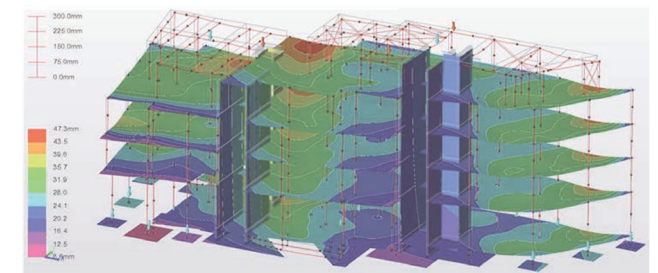
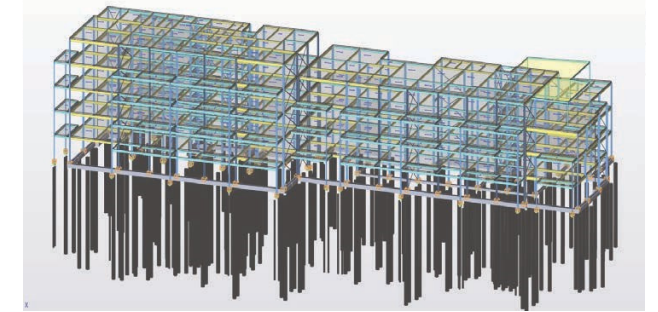
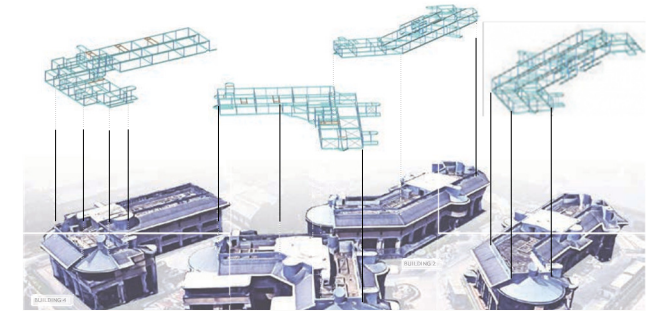
## Structural Portfolio

2024

Surrey Hills Consulting Engineers is a multi-disciplinary company providing civil and Structural design services for the building industry on practically any scale, from house extensions and conversions to multi-million residential and commercial developments. Since our start in 2015, our team of highly-skilled professionals has delivered more than 700 various design projects with the robust base of the latest available hardware and software packages.

High Quality Design is our core principle, this is where Surrey Hills Consulting Engineers stands out. As designers, we know that most of the challenges within a construction project should be met during the design stage, resulting in a higher value of our services to our clients, minimising construction, running and maintenance costs, and safeguarding the aesthetic appeal and practicality of a building. The interconnectedness of our services, together with our close work with various professionals from all relevant disciplines, takes our endeavour even further.

Surrey Hills Consulting Engineers Lt, Company Registration No.09613891



# New Horizons Court

Conversion of existing office buildings to residential flats incl. rooftop extensions

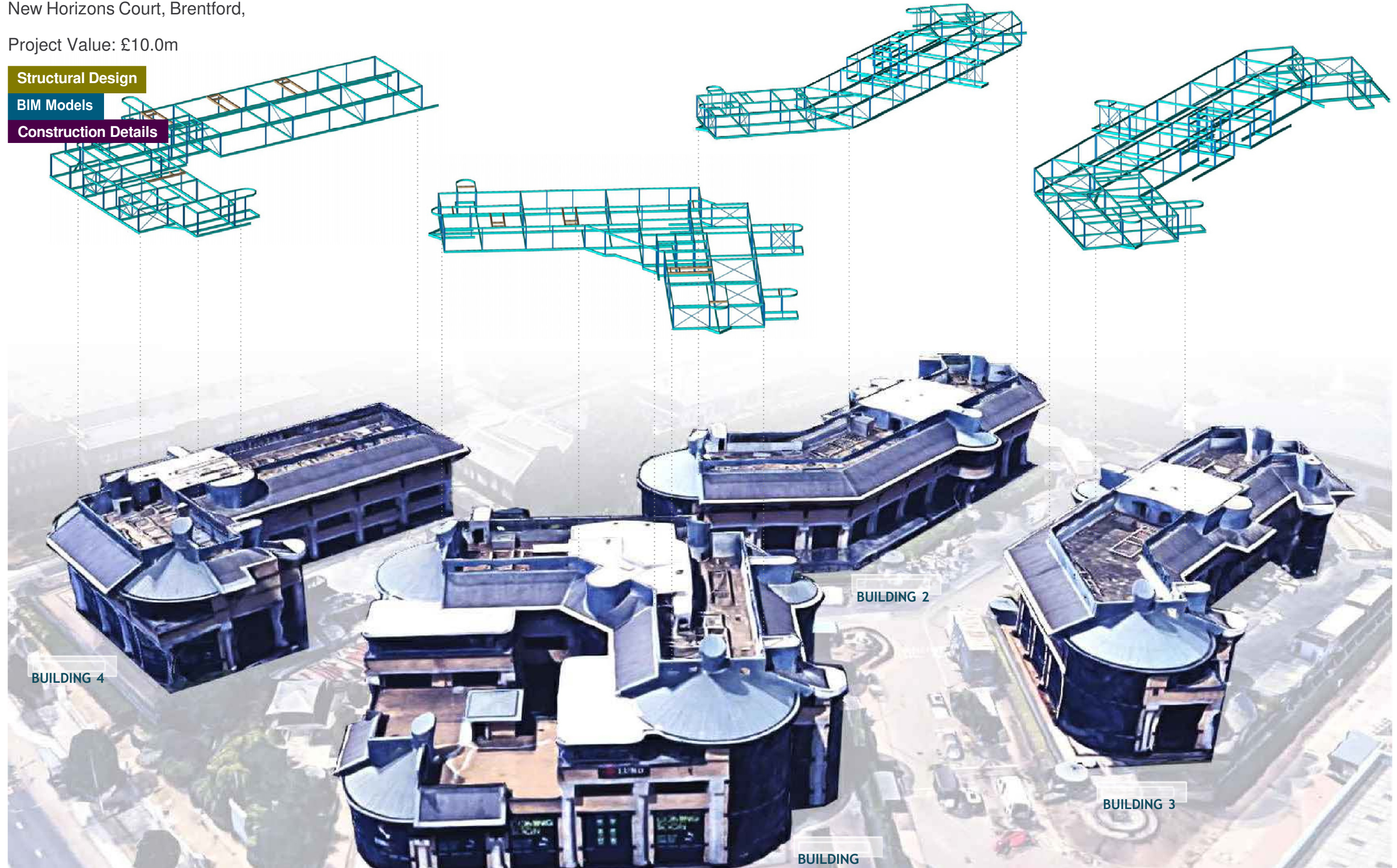
New Horizons Court, Brentford,

Project Value: £10.0m

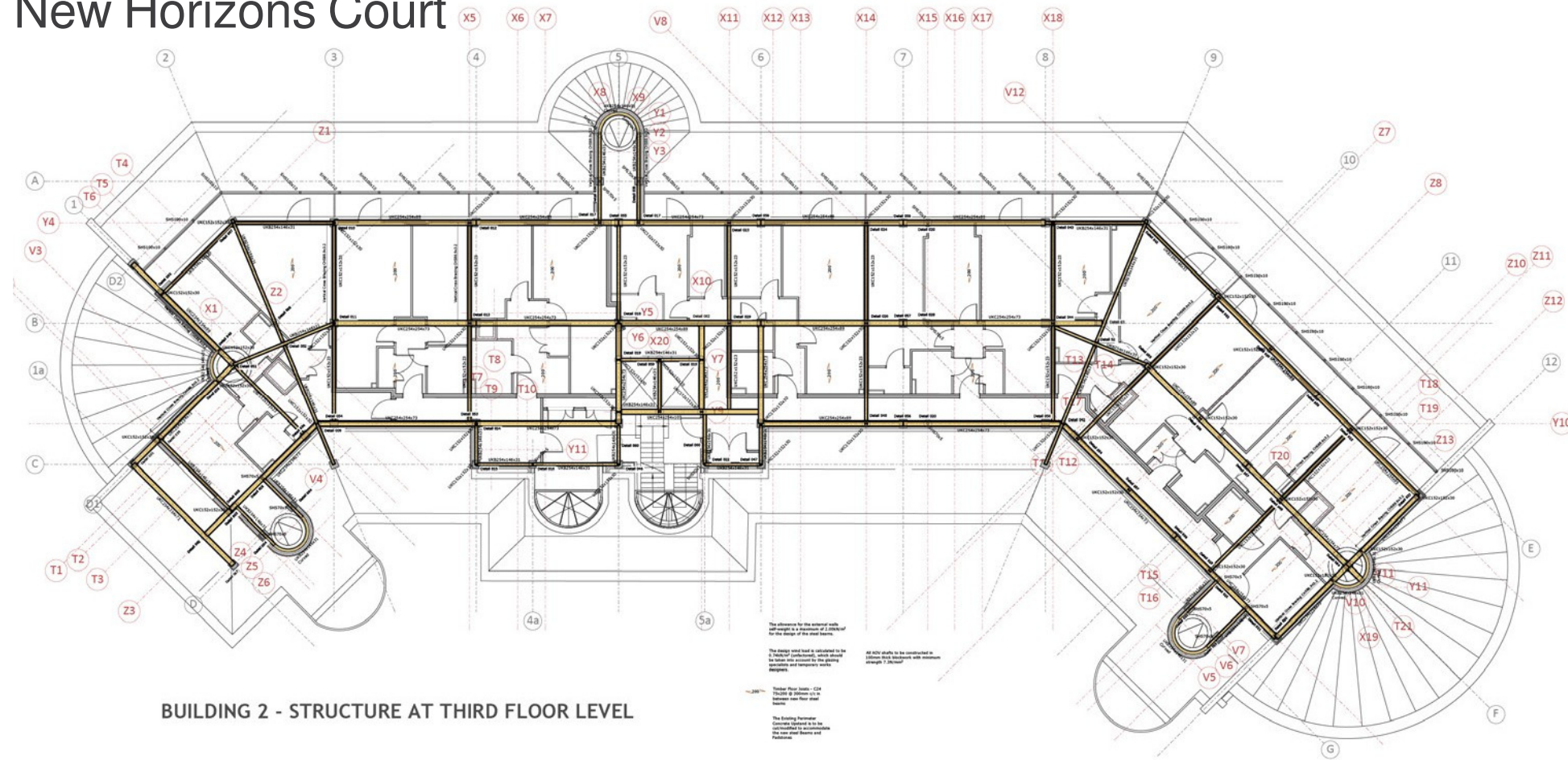
Structural Design

BIM Models

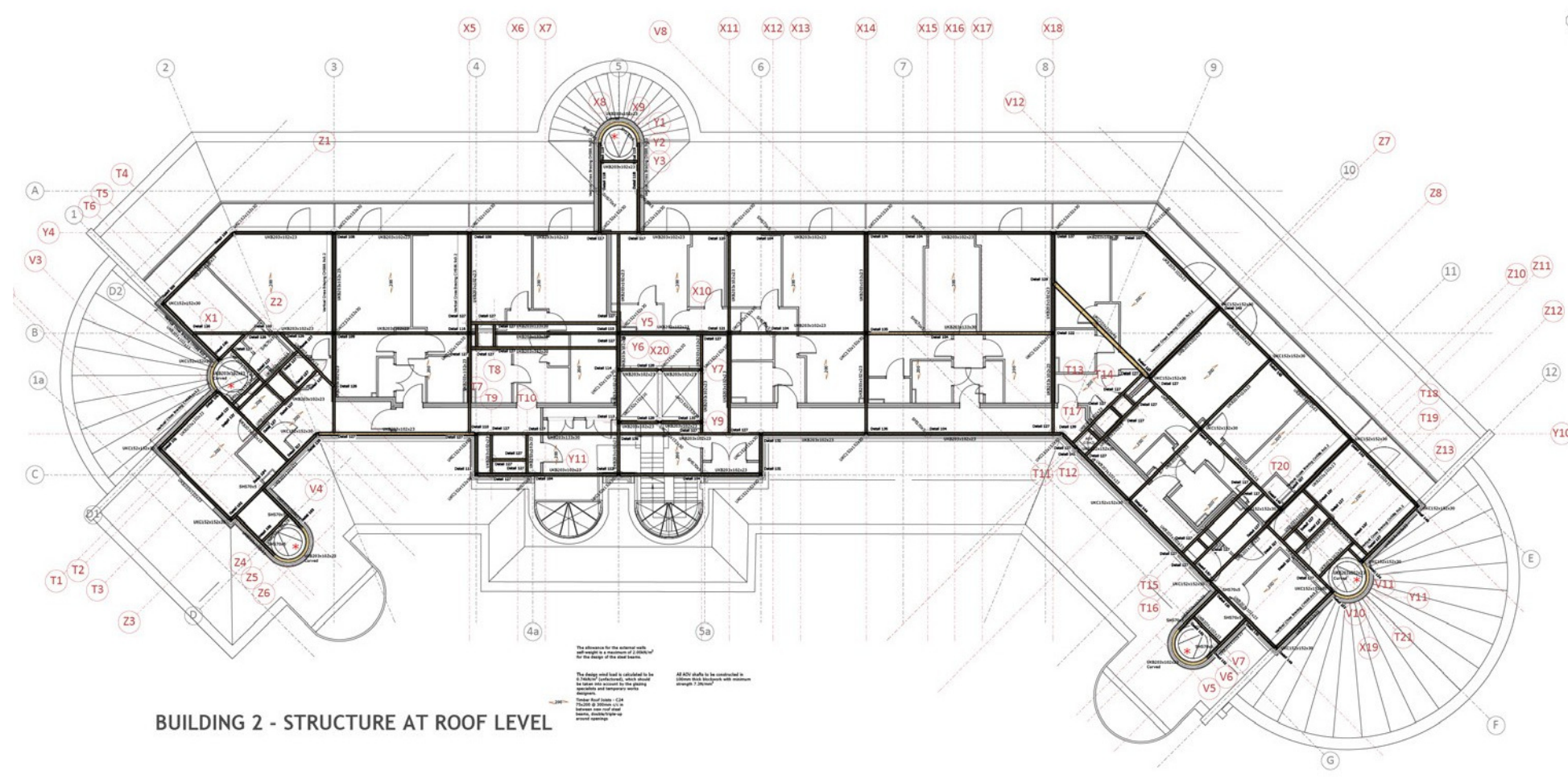
Construction Details



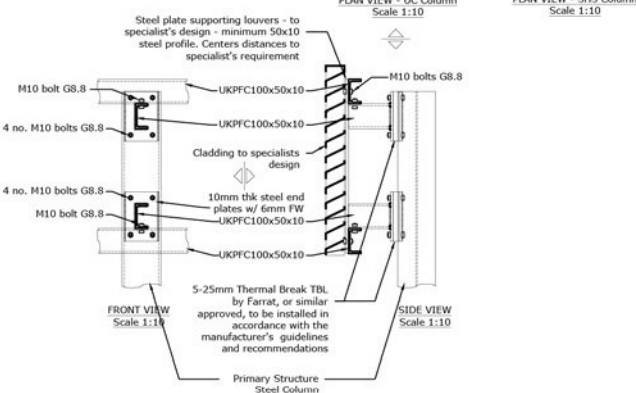
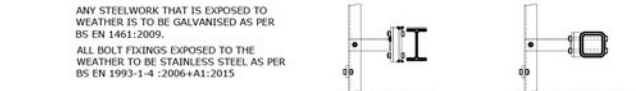
# New Horizons Court



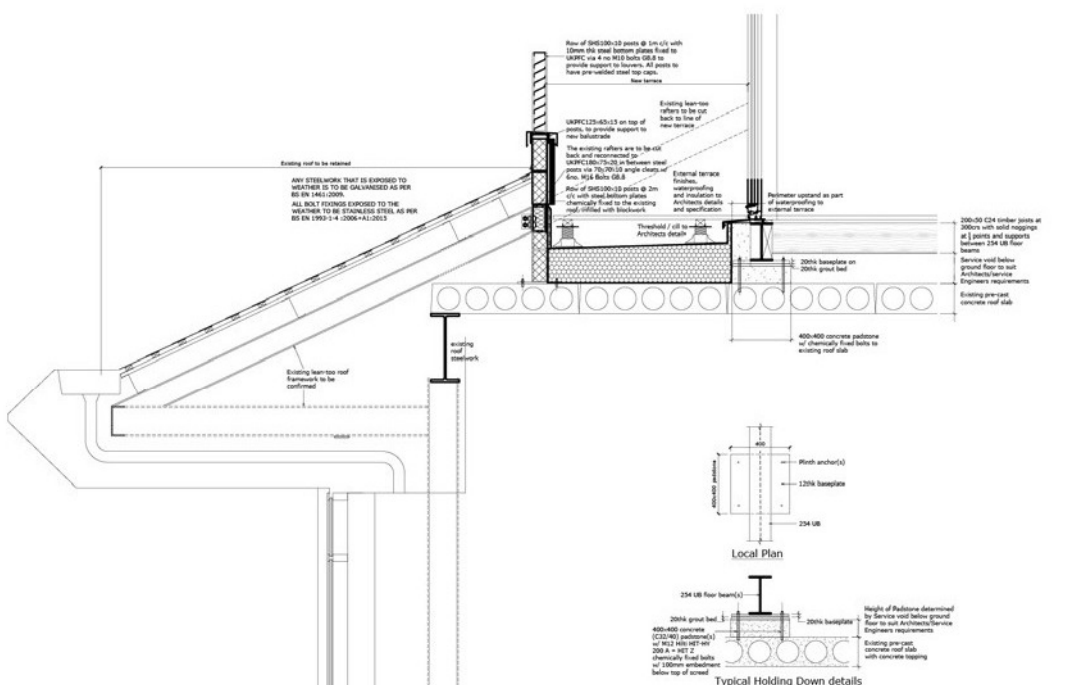
BUILDING 2 - STRUCTURE AT THIRD FLOOR LEVEL



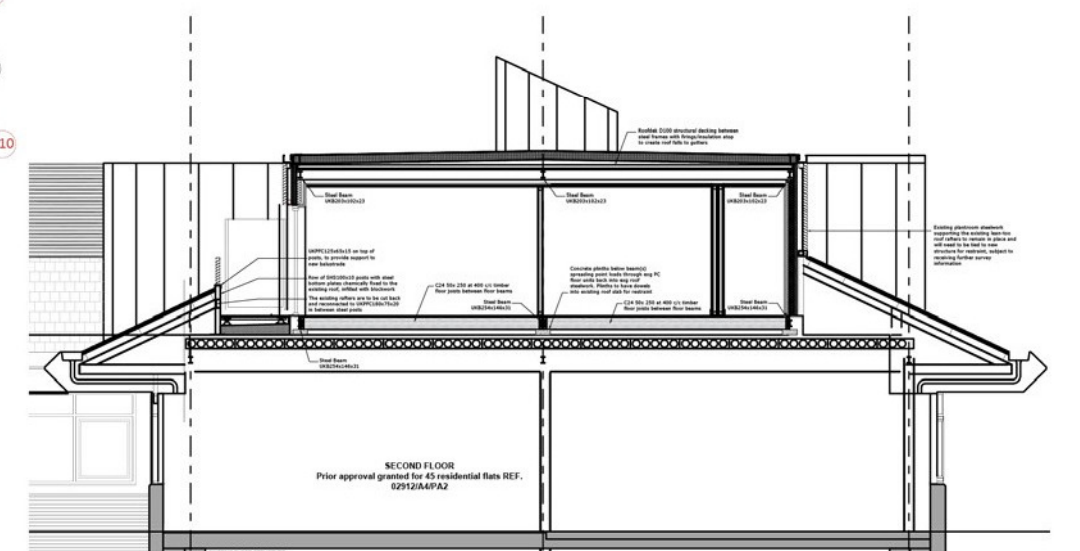
BUILDING 2 - STRUCTURE AT ROOF LEVEL



CLADDING SUPPORT DETAILS



PERIMETER DETAILS



TYPICAL SECTION

# Sandycombe Road

New built block of flats

Sandycombe Road, Richmond,

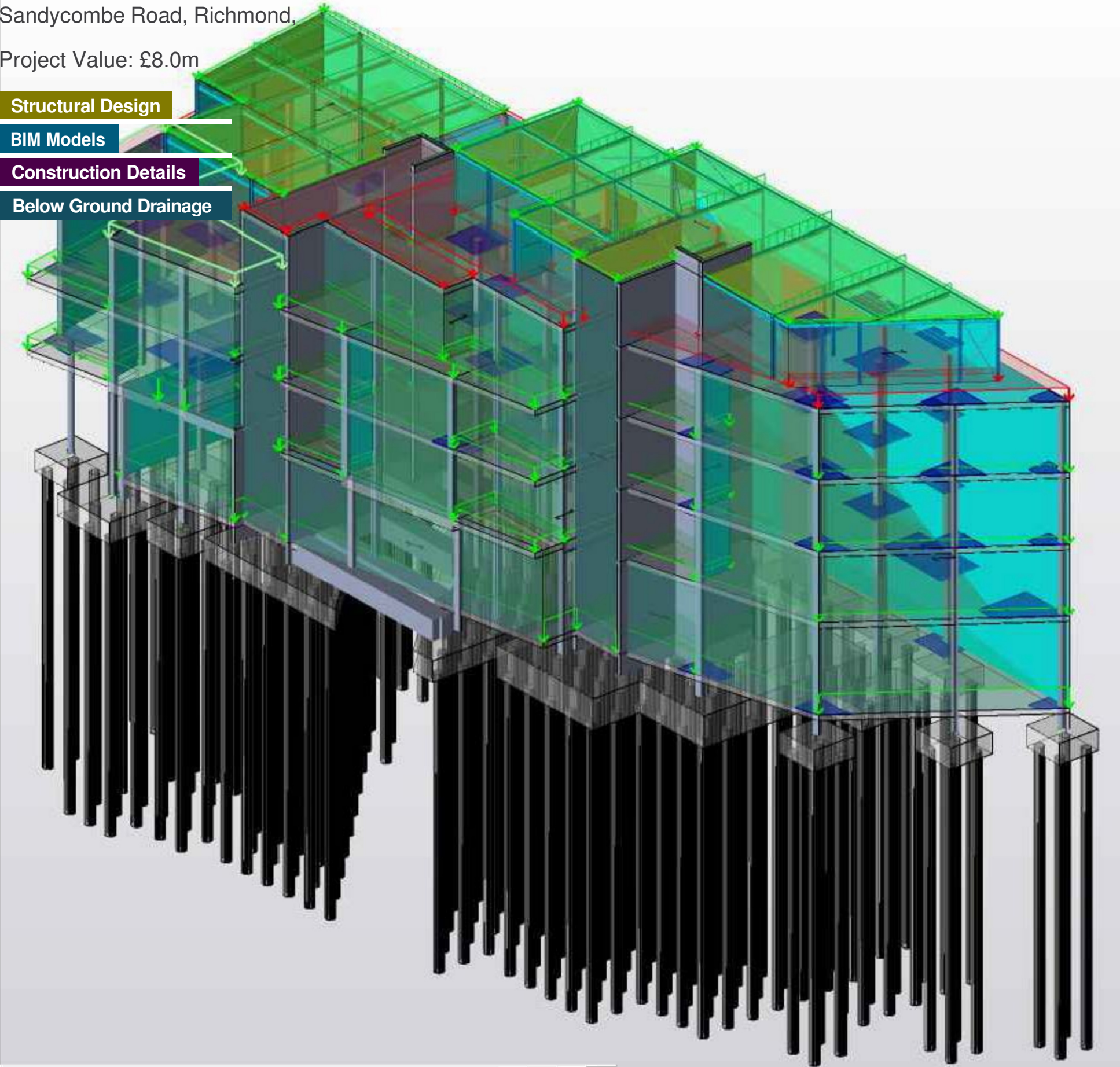
Project Value: £8.0m

Structural Design

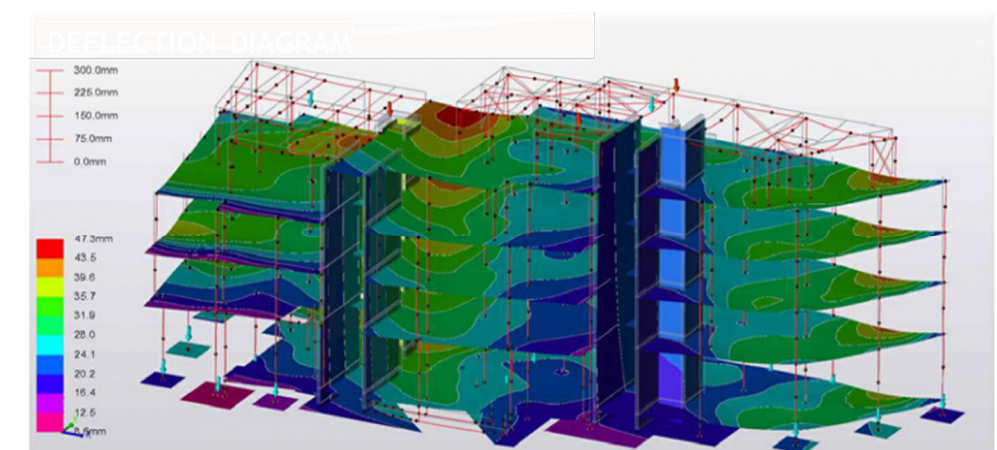
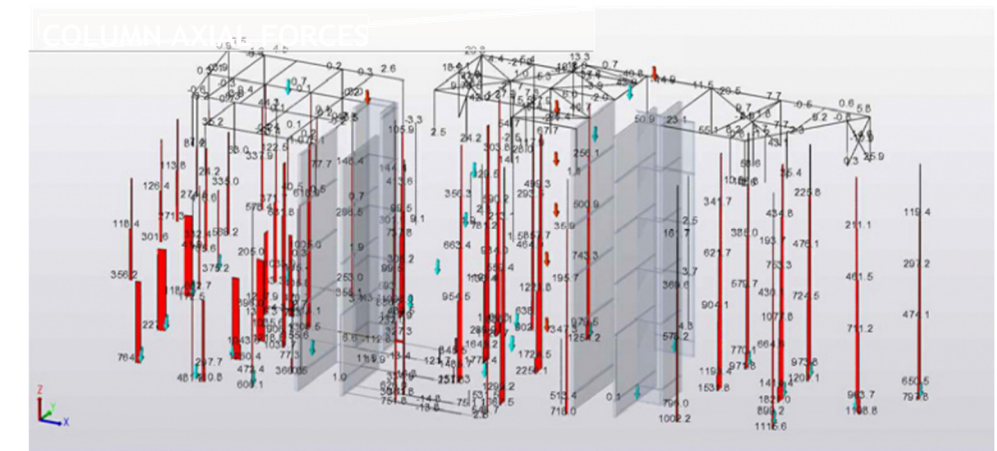
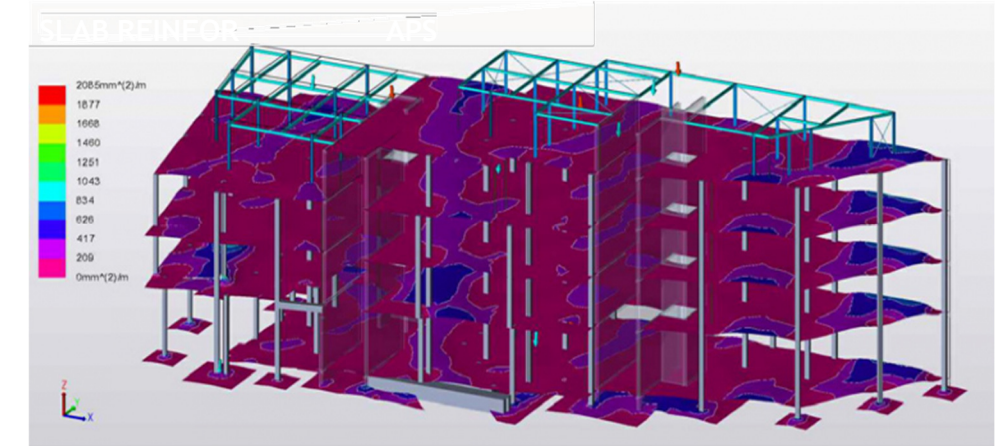
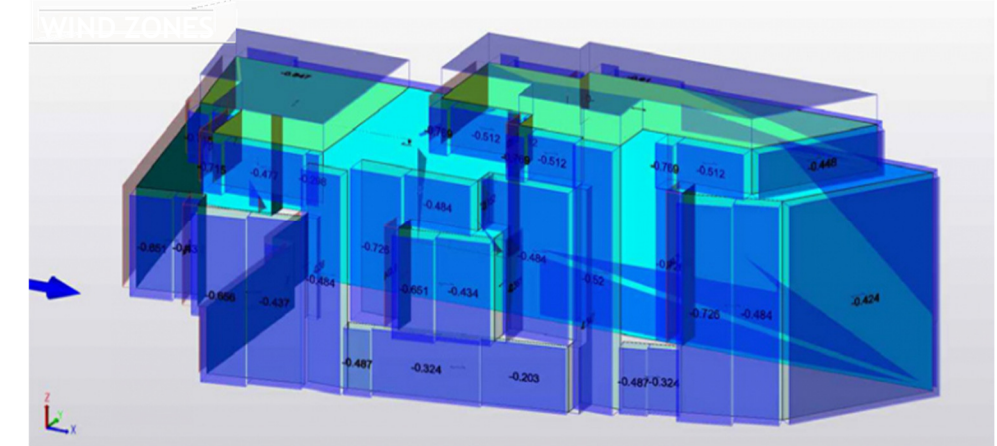
BIM Models

Construction Details

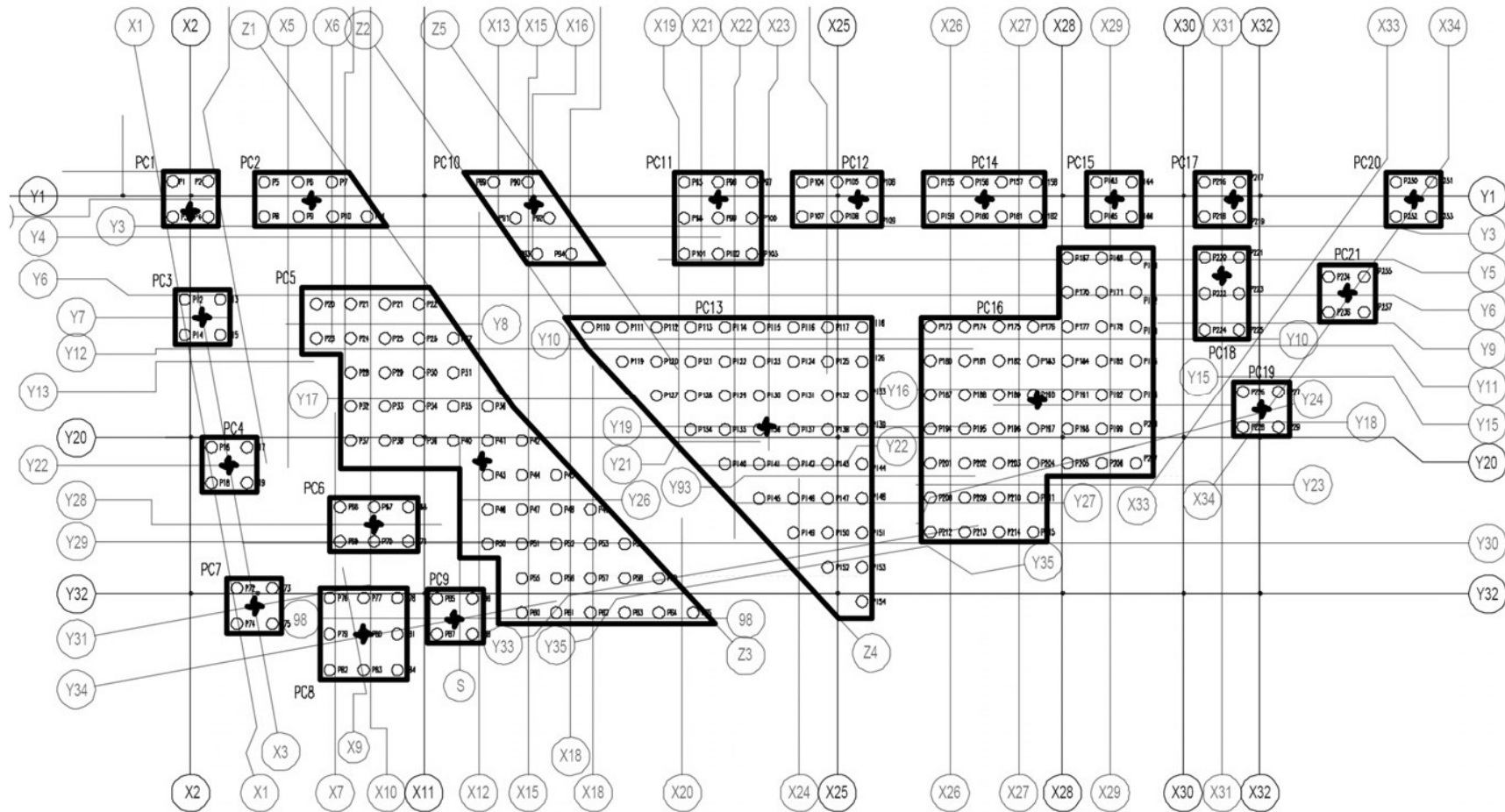
Below Ground Drainage



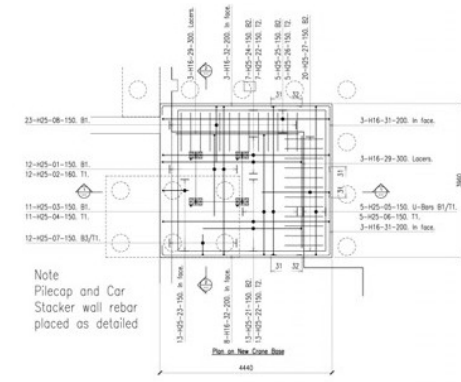
3D STRUCTURAL MODEL WITH PILES AND PILED FOUNDATIONS



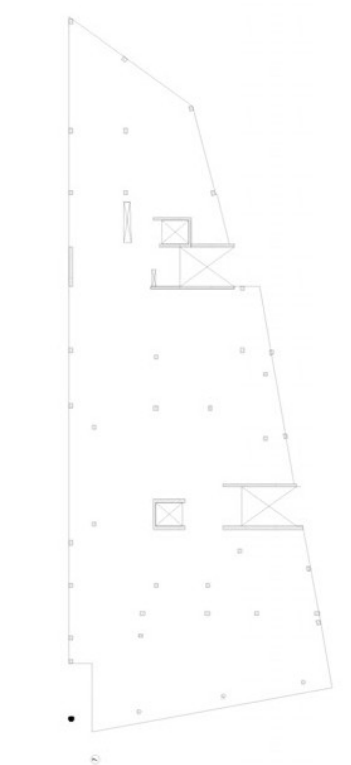
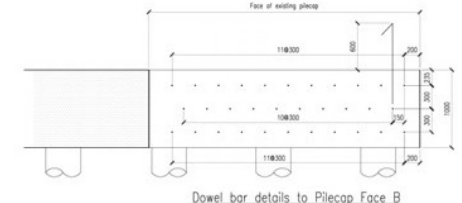
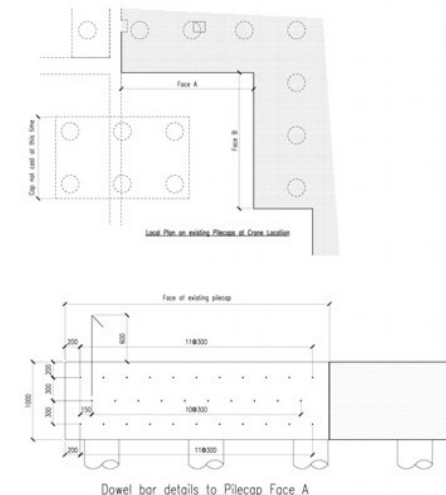
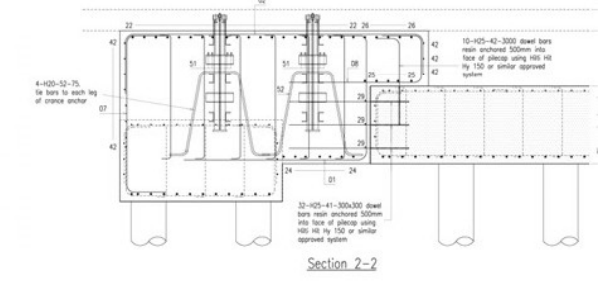
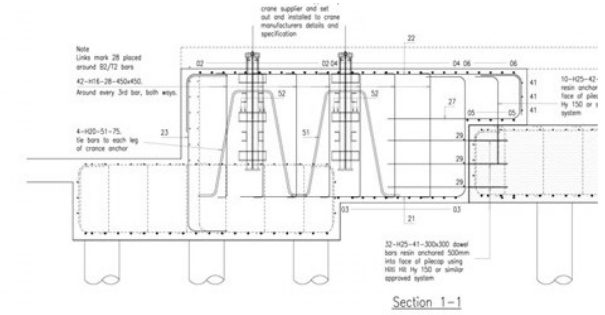
# Sandycombe Road



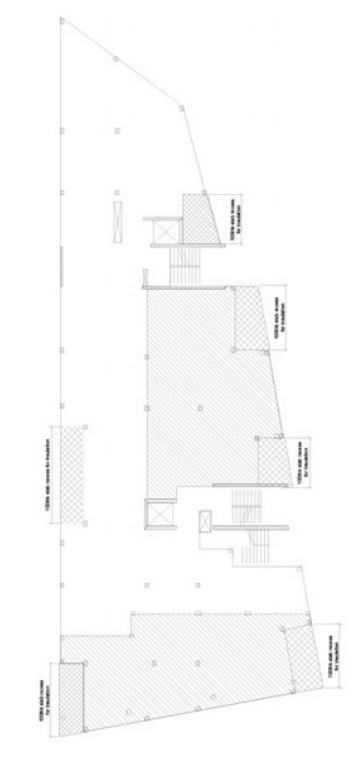
PILING PLAN



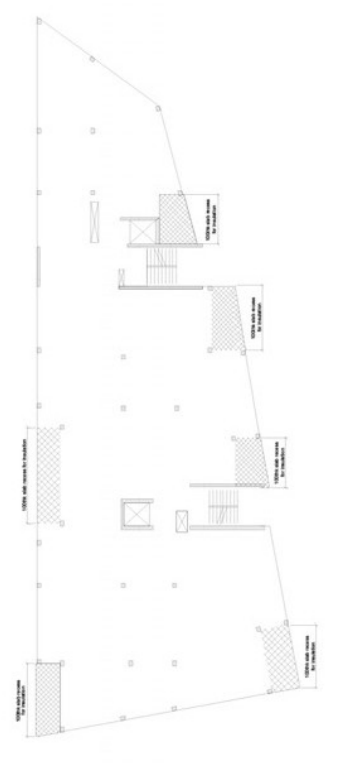
Note  
Pilecap and Car  
Stacker wall rebar  
placed as detailed



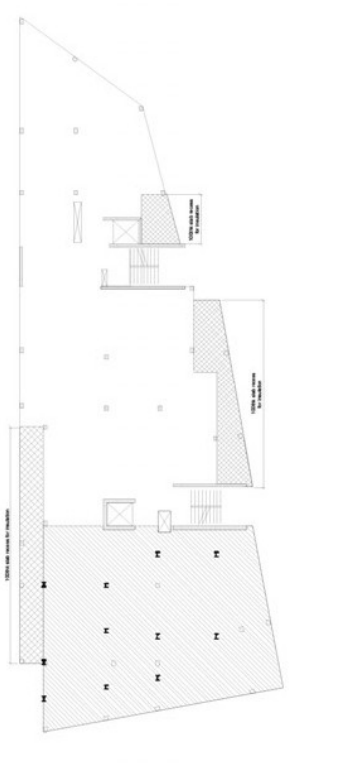
GROUND FLOOR STRUCTURE



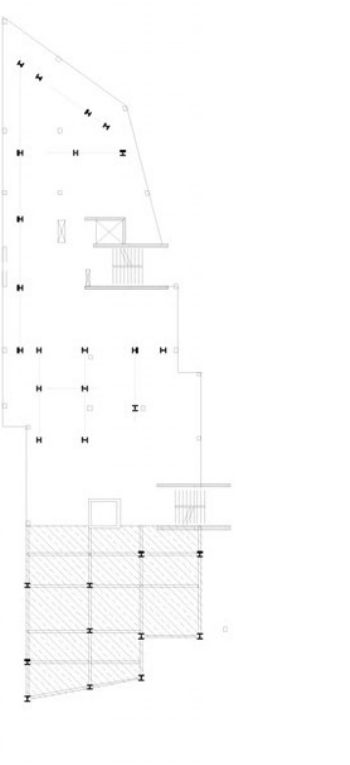
FIRST FLOOR STRUCTURE



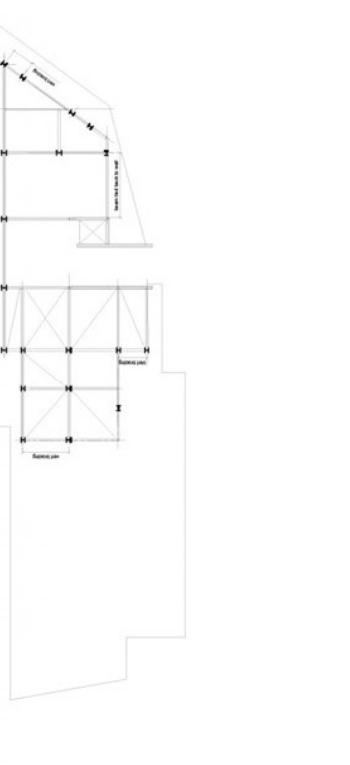
SECOND FLOOR STRUCTURE



THIRD FLOOR STRUCTURE



FOURTH FLOOR STRUCTURE



ROOF STRUCTURE

# High Road

New built block of flats

High Road, Chadwell Heath,

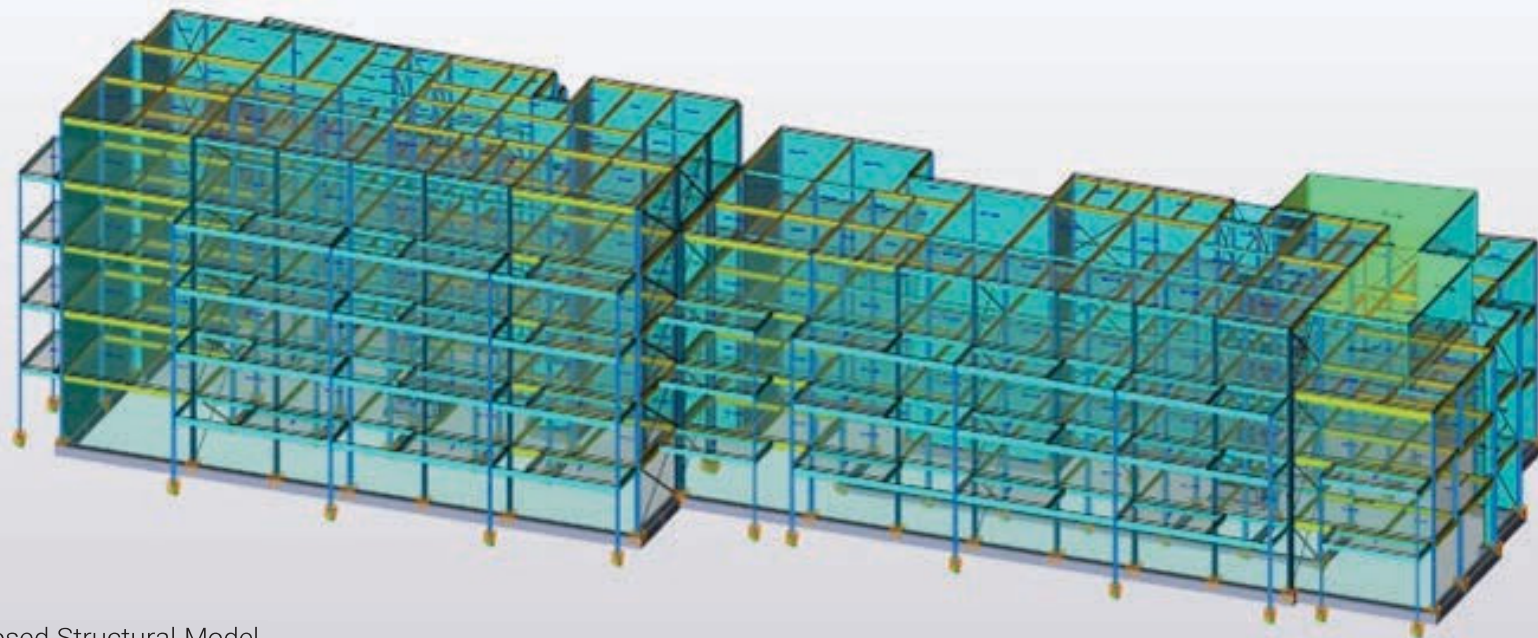
Project Value: £7.0m

Structural Design

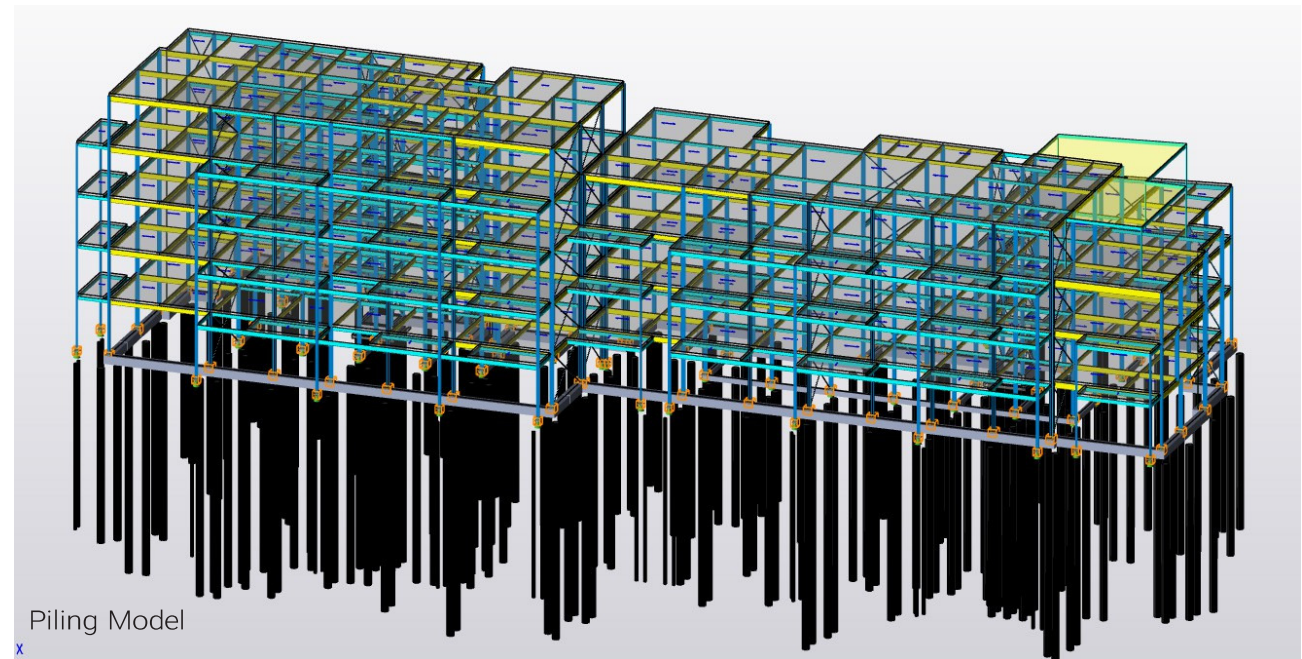
BIM Models

Construction Details

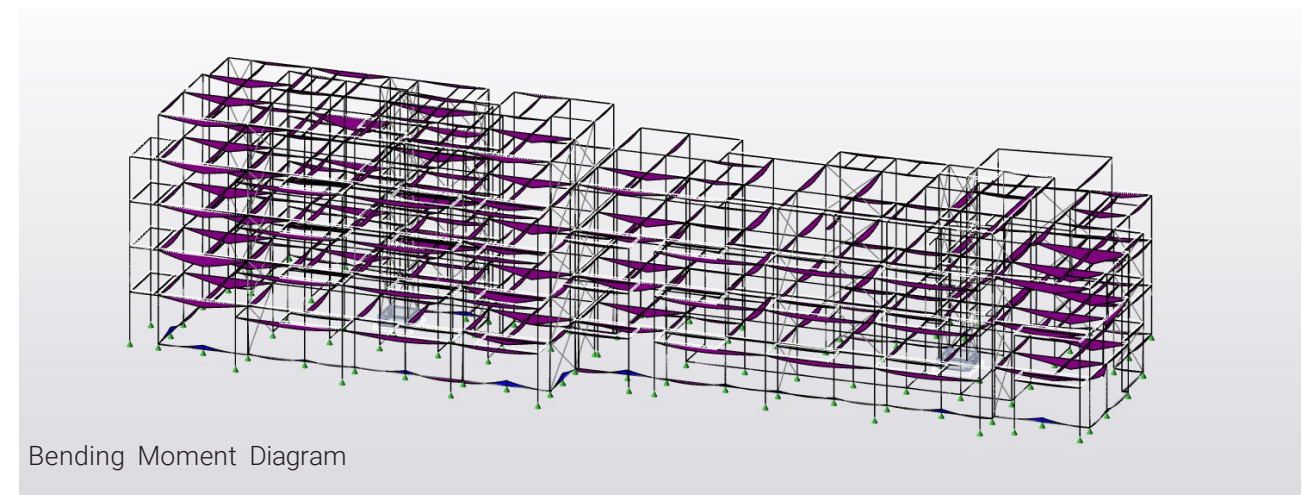
Below Ground Drainage



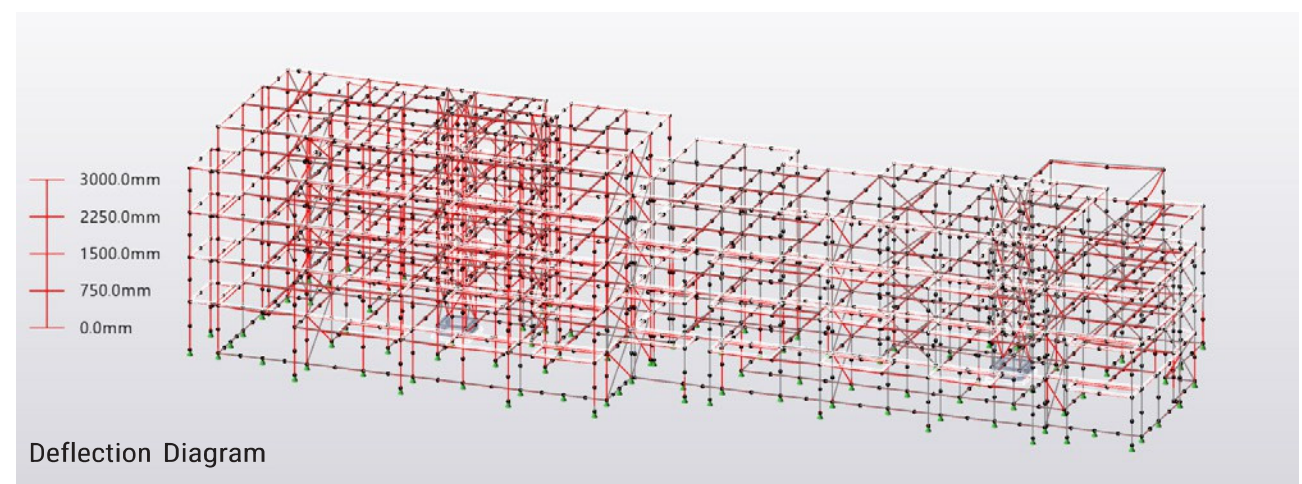
Proposed Structural Model



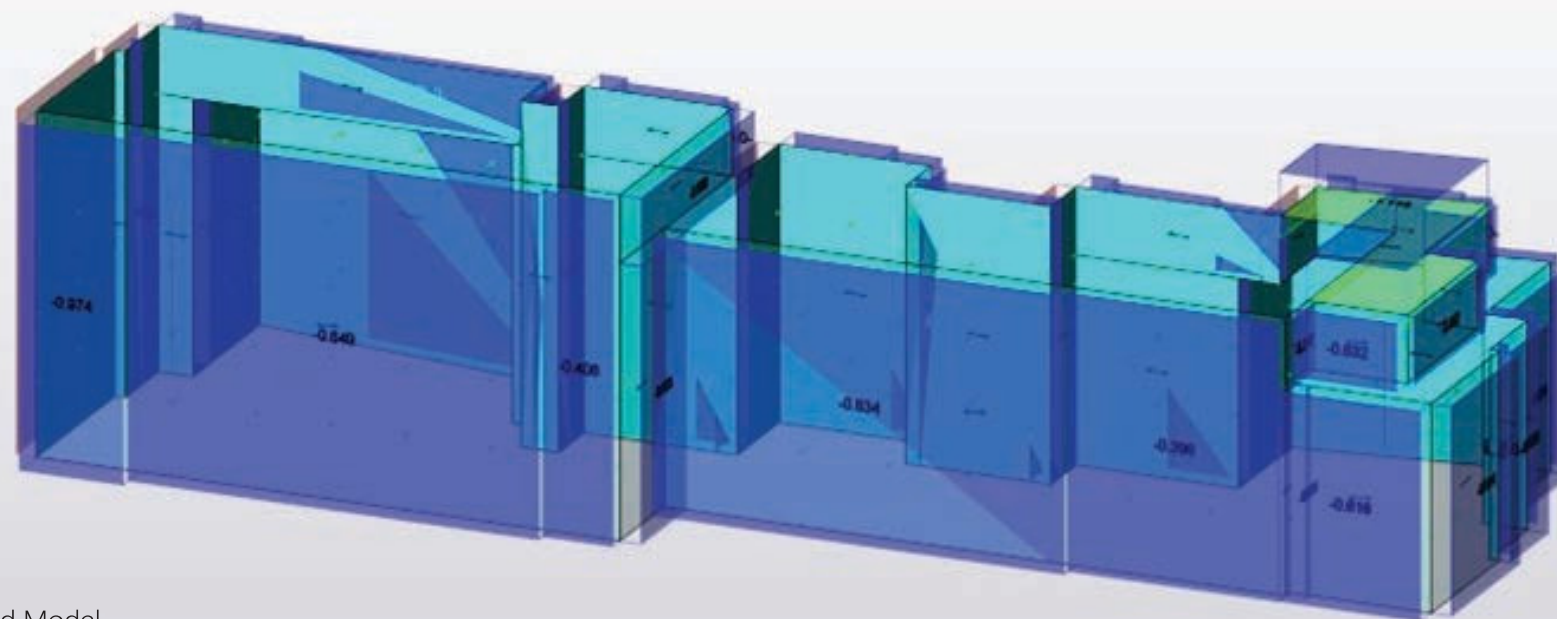
Piling Model



Bending Moment Diagram

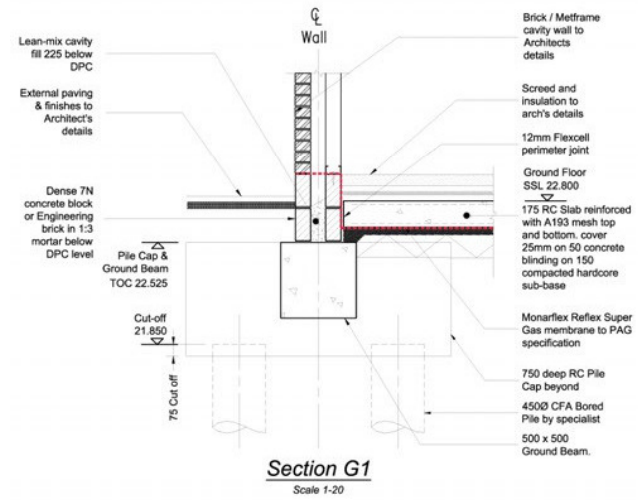
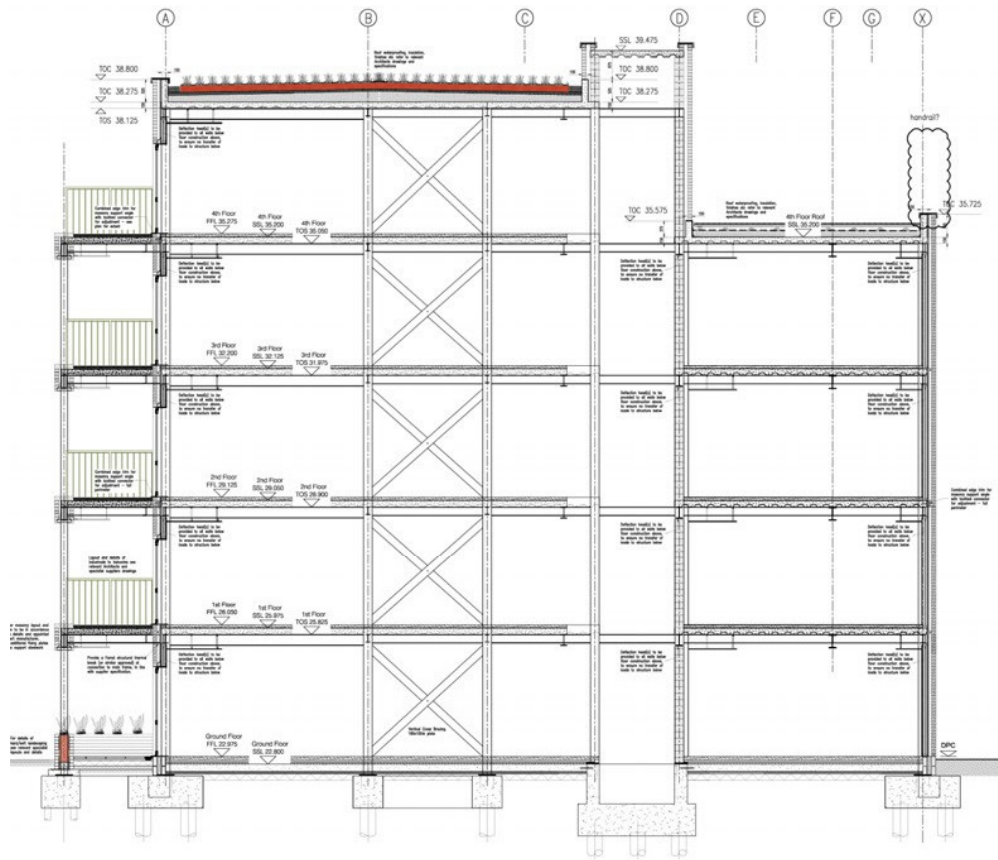


Deflection Diagram



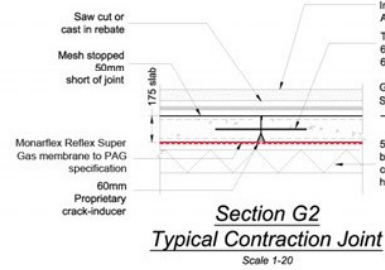
Wind Model

# High Road

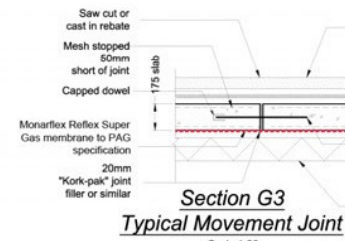


Lean-mix cavity fill Z25 below DPC  
External paving & finishes to Architect's details  
Dense 7N concrete block or Engineering brick in 1:3 mortar below DPC level  
Pile Cap & Ground Beam TOC 22.525  
Cut-off 21.850  
75 Cut off

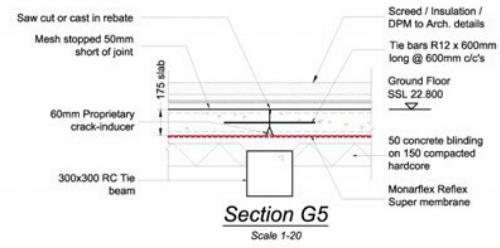
Brick / Metframe cavity wall to Architect's details  
Screed and insulation to Arch's details  
12mm Flexcell perimeter joint  
Ground Floor SSL 22.800  
175 RC Slab reinforced with A193 mesh top and bottom, cover 25mm on 50 compacted hardcore sub-base  
Monarflex Reflex Super Gas membrane to PAG specification  
750 deep RC Pile Cap beyond  
450Ø CFA Bored Pile by specialist  
500 x 500 Ground Beam.



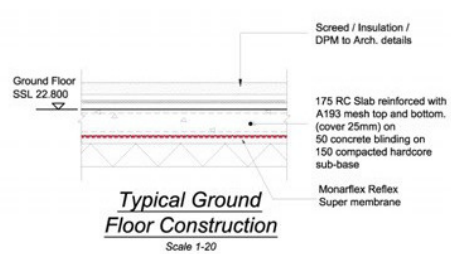
Saw cut or cast in rebate  
Mesh stopped 50mm short of joint  
175 slab  
Screed / Insulation to Arch. details  
Tie bars R12 x 600mm long @ 600mm c/c's  
Ground Floor SSL 22.800  
50 concrete blinding on 150 compacted hardcore  
Monarflex Reflex Super Gas membrane to PAG specification  
20mm Proprietary crack-inducer



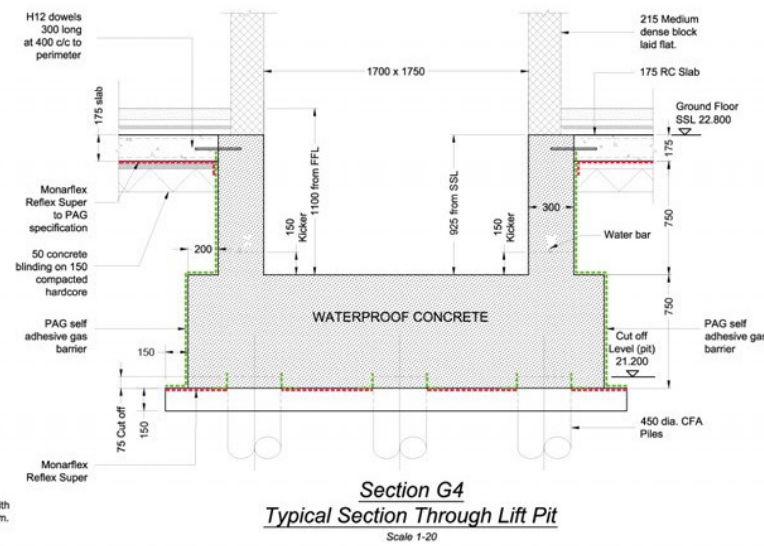
Saw cut or cast in rebate  
Mesh stopped 50mm short of joint  
175 slab  
Screed / Insulation / DPM to Arch. details  
Ground Floor SSL 22.800  
R20 dowel bar 600mm long @ 600mm c/c's. Capped site de-bonded.  
50 concrete blinding on 150 compacted hardcore  
Monarflex Reflex Super Gas membrane to PAG specification  
20mm "kork-pak" joint filler or similar



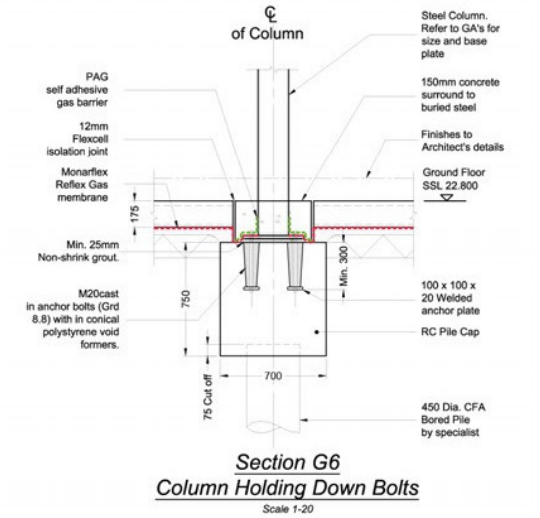
Saw cut or cast in rebate  
Mesh stopped 50mm short of joint  
175 slab  
60mm Proprietary crack-inducer  
300x300 RC Tie beam  
Screed / Insulation / DPM to Arch. details  
Tie bars R12 x 600mm long @ 600mm c/c's  
Ground Floor SSL 22.800  
50 concrete blinding on 150 compacted hardcore  
Monarflex Reflex Super membrane



Saw cut or cast in rebate  
Mesh stopped 50mm short of joint  
175 slab  
Screed / Insulation / DPM to Arch. details  
Ground Floor SSL 22.800  
175 RC Slab reinforced with A193 mesh top and bottom. (cover 25mm) on 50 concrete blinding on 150 compacted hardcore sub-base  
Monarflex Reflex Super membrane



H12 dowels 300 long at 400 c/c to perimeter  
175 slab  
1700 x 1750  
215 Medium dense block laid flat.  
175 RC Slab  
Ground Floor SSL 22.800  
WATERPROOF CONCRETE  
Water bar  
Cut off Level (pit) 21.200  
PAG self adhesive gas barrier  
450 dia. CFA Piles  
Monarflex Reflex Super  
75 Cut off

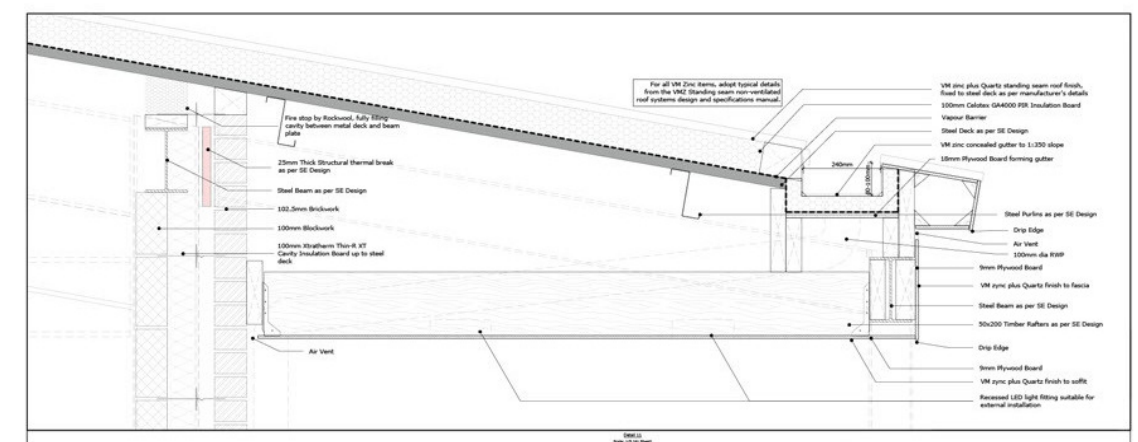
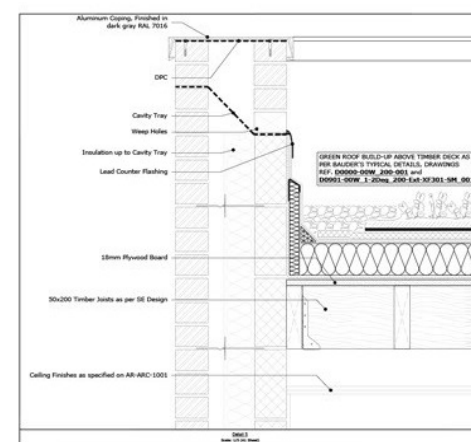
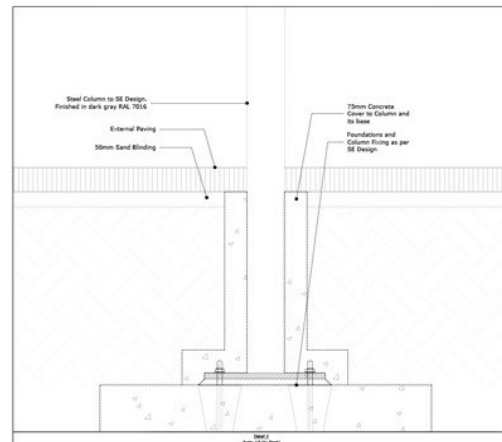
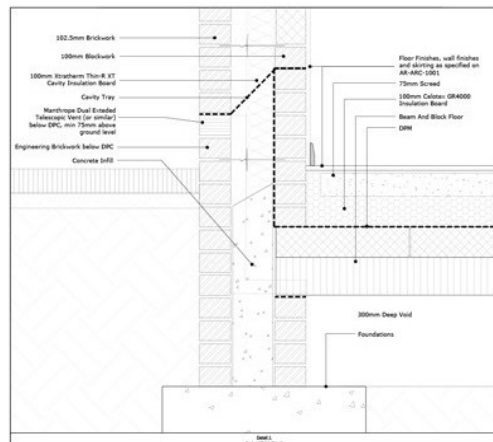
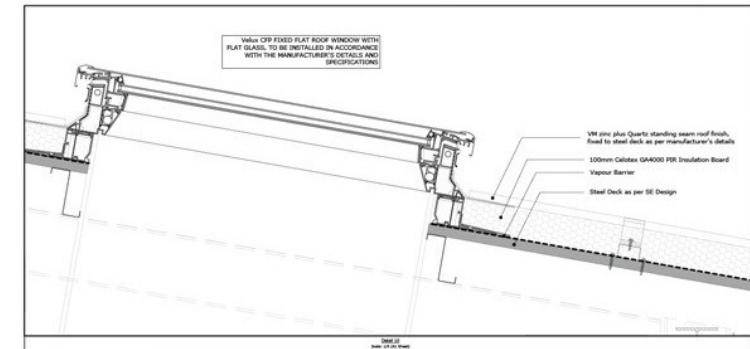
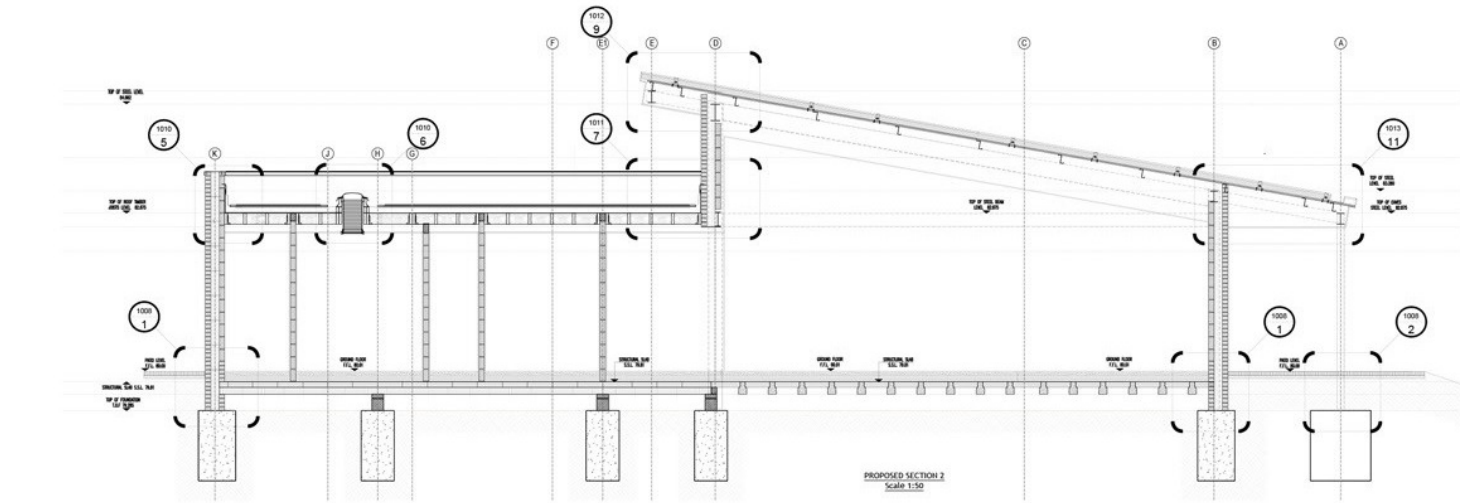
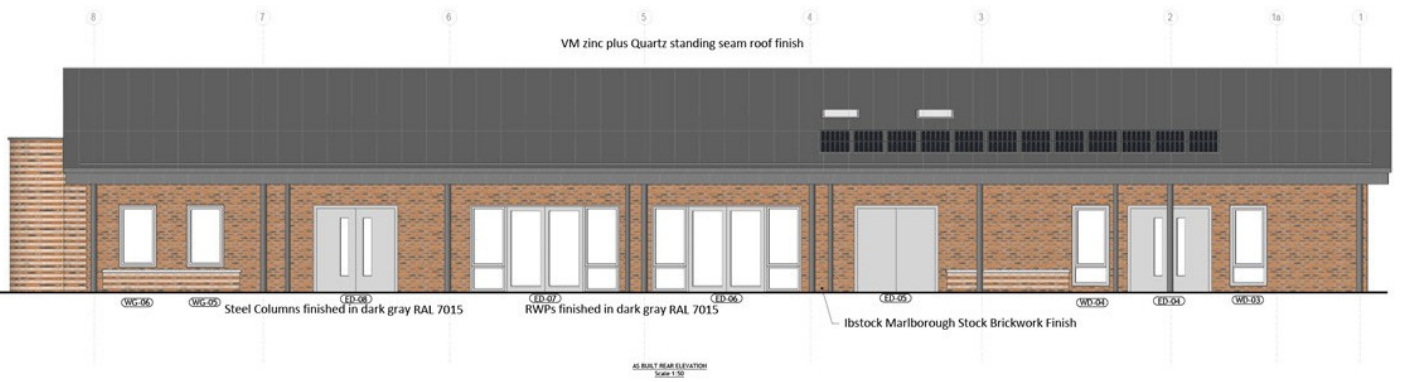
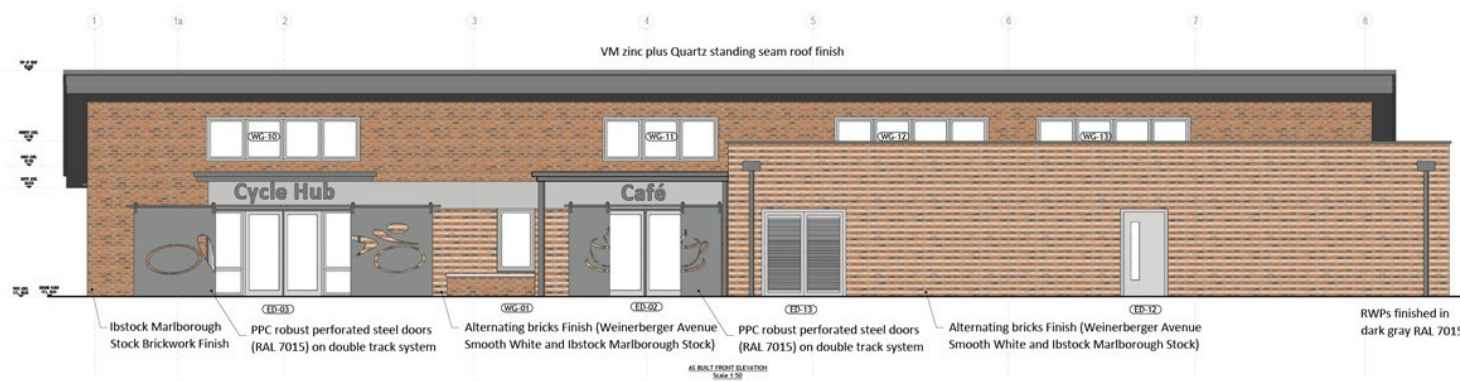
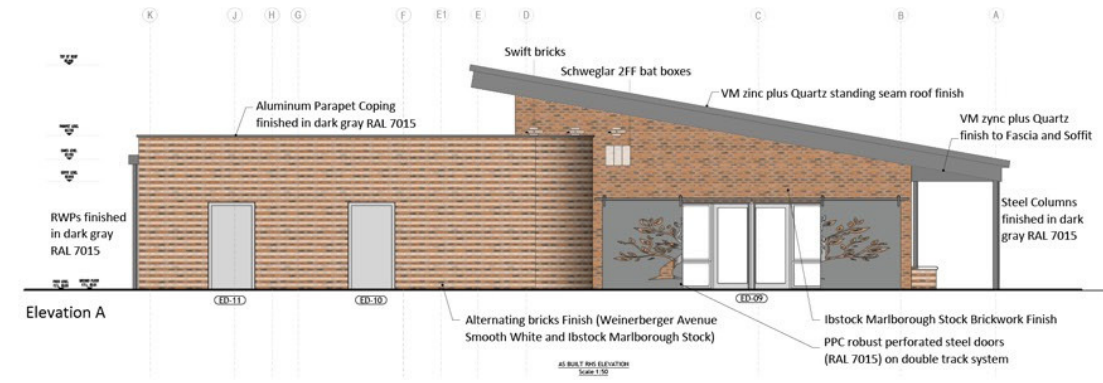


Steel Column. Refer to GA's for size and base plate  
150mm concrete surround to buried steel  
Finishes to Architect's details  
Ground Floor SSL 22.800  
PAG self adhesive gas barrier  
12mm Flexcell isolation joint  
Monarflex Reflex Gas membrane  
Min. 25mm Non-shrink grout.  
M20 cast in anchor bolts (Gnd 8.8) with in conical polystyrene void formers.  
100 x 100 x 20 Welded anchor plate  
RC Pile Cap  
450 Dia. CFA Bored Pile by specialist





# Cottonmill Community and Cycling Centre



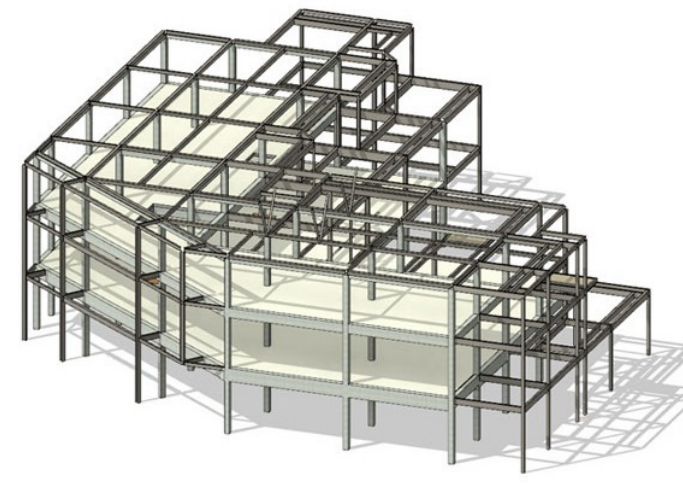
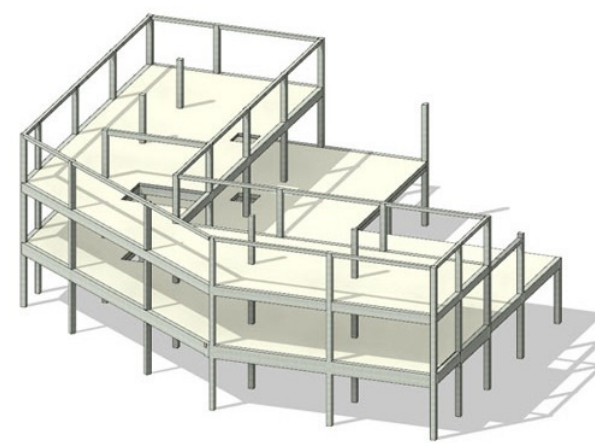
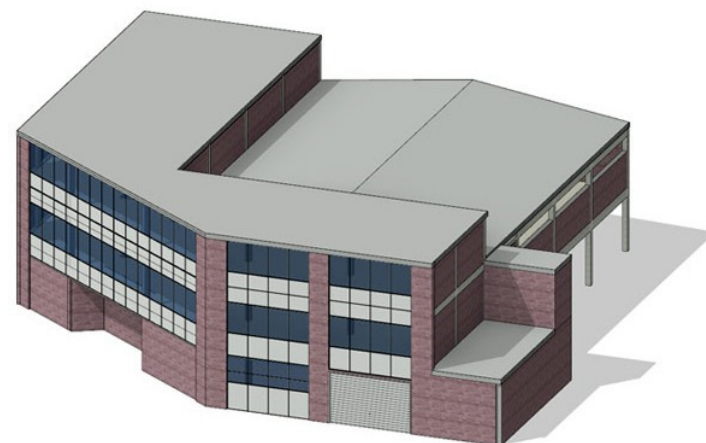
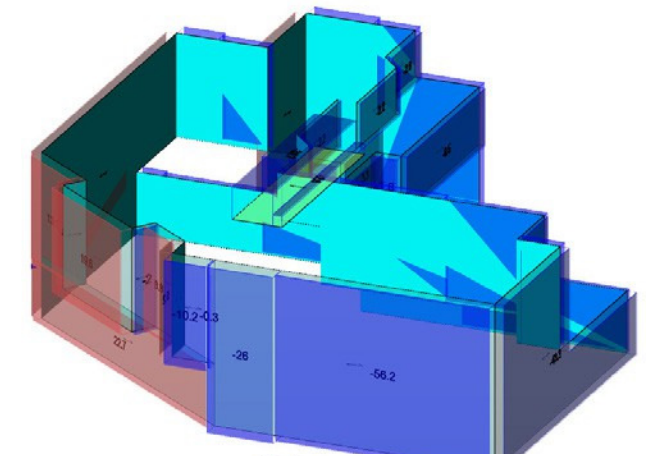
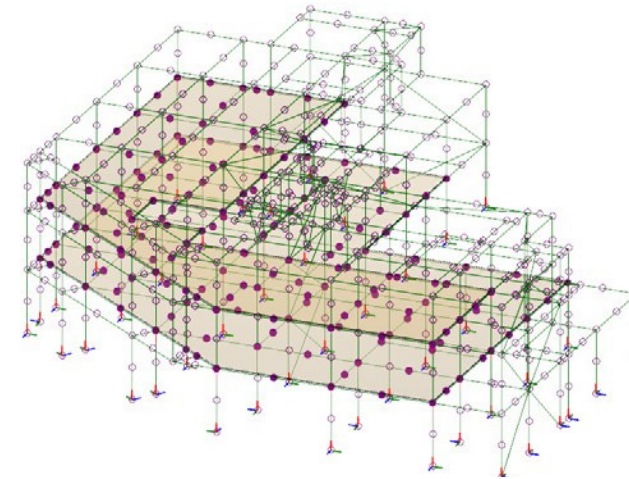
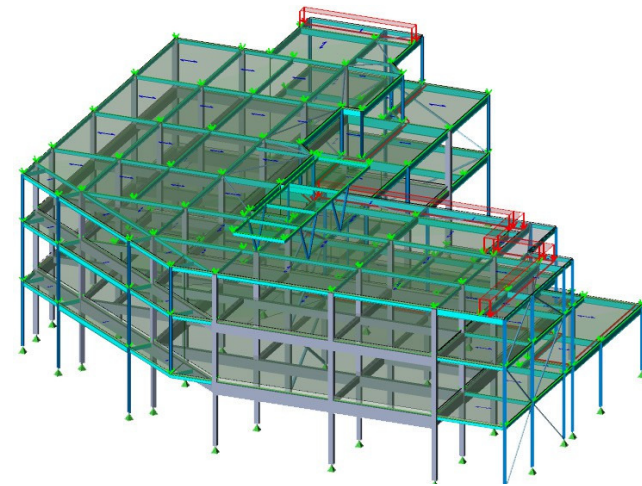
# Genesis House

## Conversion of commercial building to residential flats

Genesis House, Molesey Ave, West Molesey,

Project Value: £4.0m

- Civil Design
- Structural Design
- BIM Models
- Construction Details



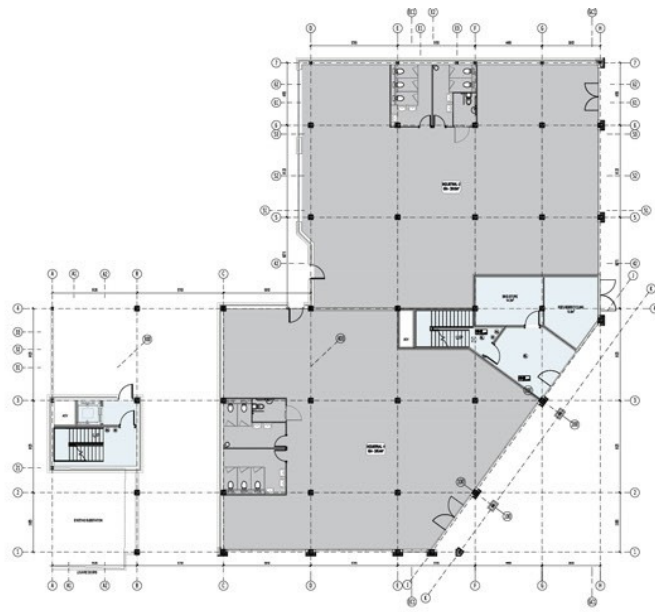
Existing Building

Existing Building Structure

Proposed Building Structure

Proposed Building

# Genesis House



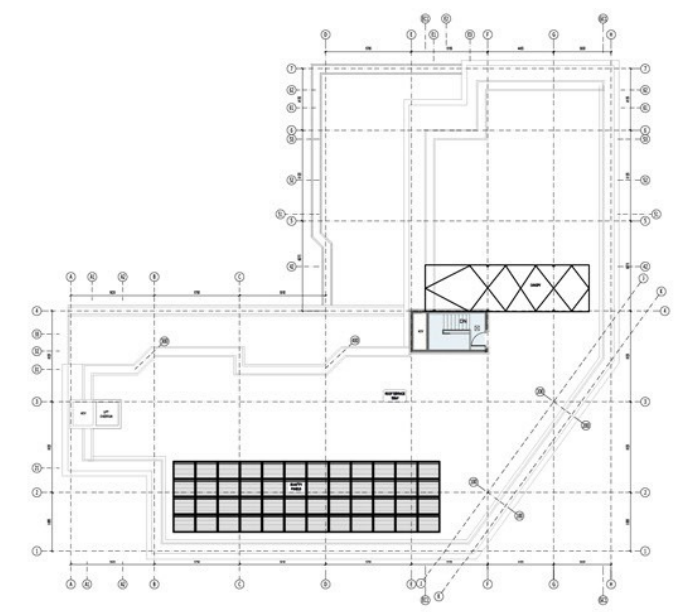
GROUND FLOOR PLAN



FIRST FLOOR PLAN



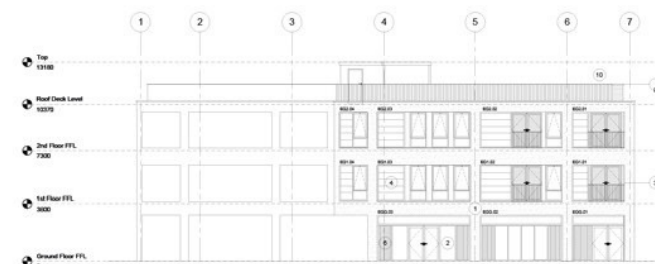
FIRST FLOOR PLAN



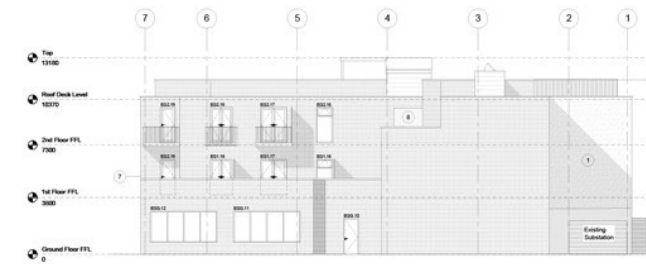
ROOF TERRACE PLAN



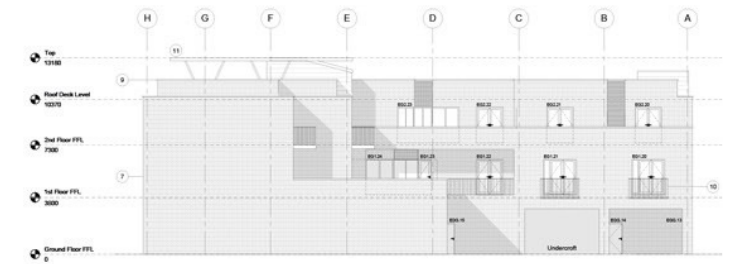
SIDE ELEVATION 1



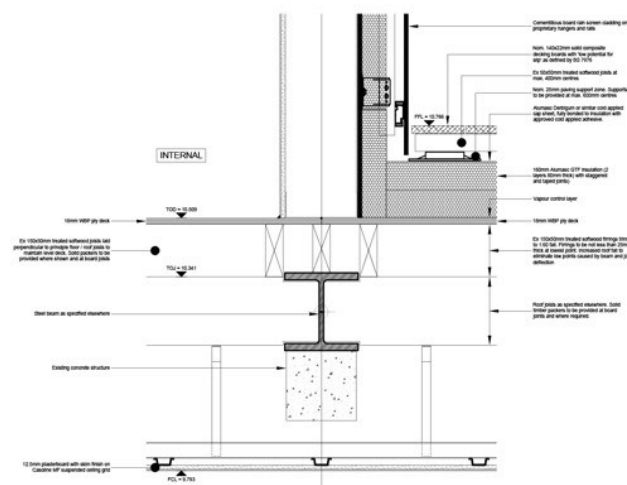
FRONT ELEVATION



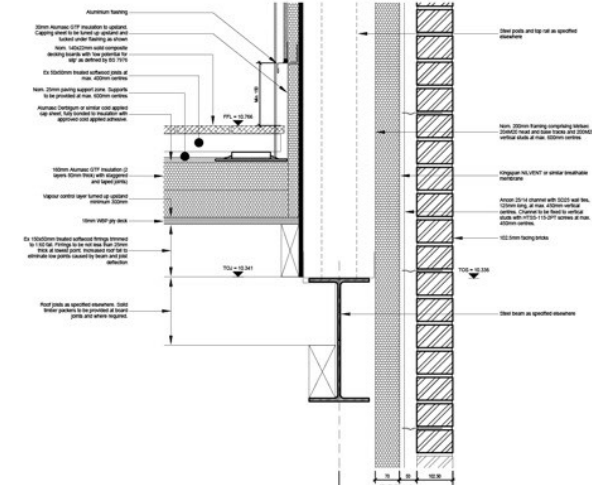
REAR ELEVATION



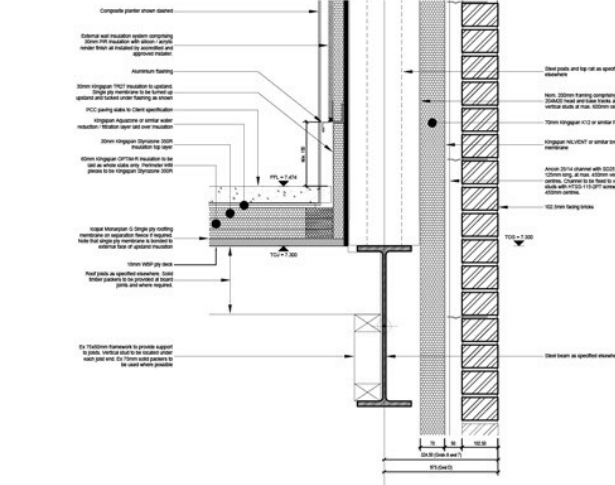
SIDE ELEVATION 2



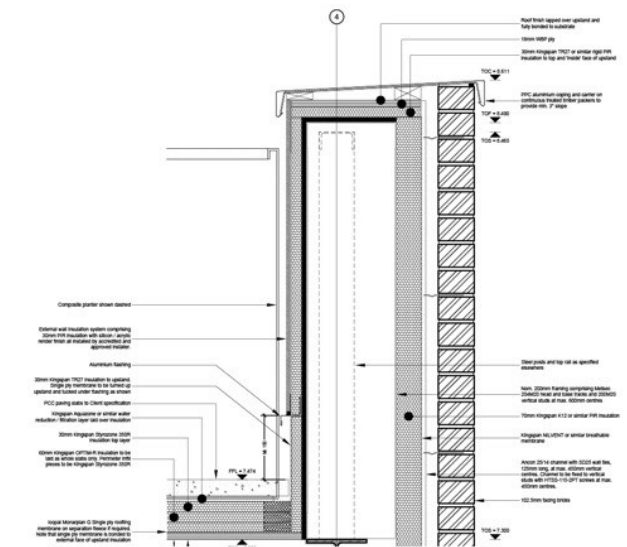
Detail SR.06 - Stair Enclosure  
Typical Base Detail



Detail SR.04 - Parapet Detail 1  
(Masonry 324.50mm Off Grid)



Detail S2.01 - 1st / 2nd Floor Balcony  
Parapet Type 2a (1100mm High)



# Homoeopathic Hospital

## Conversion of existing hospital to residential flats

Church Road, Tunbridge Wells,

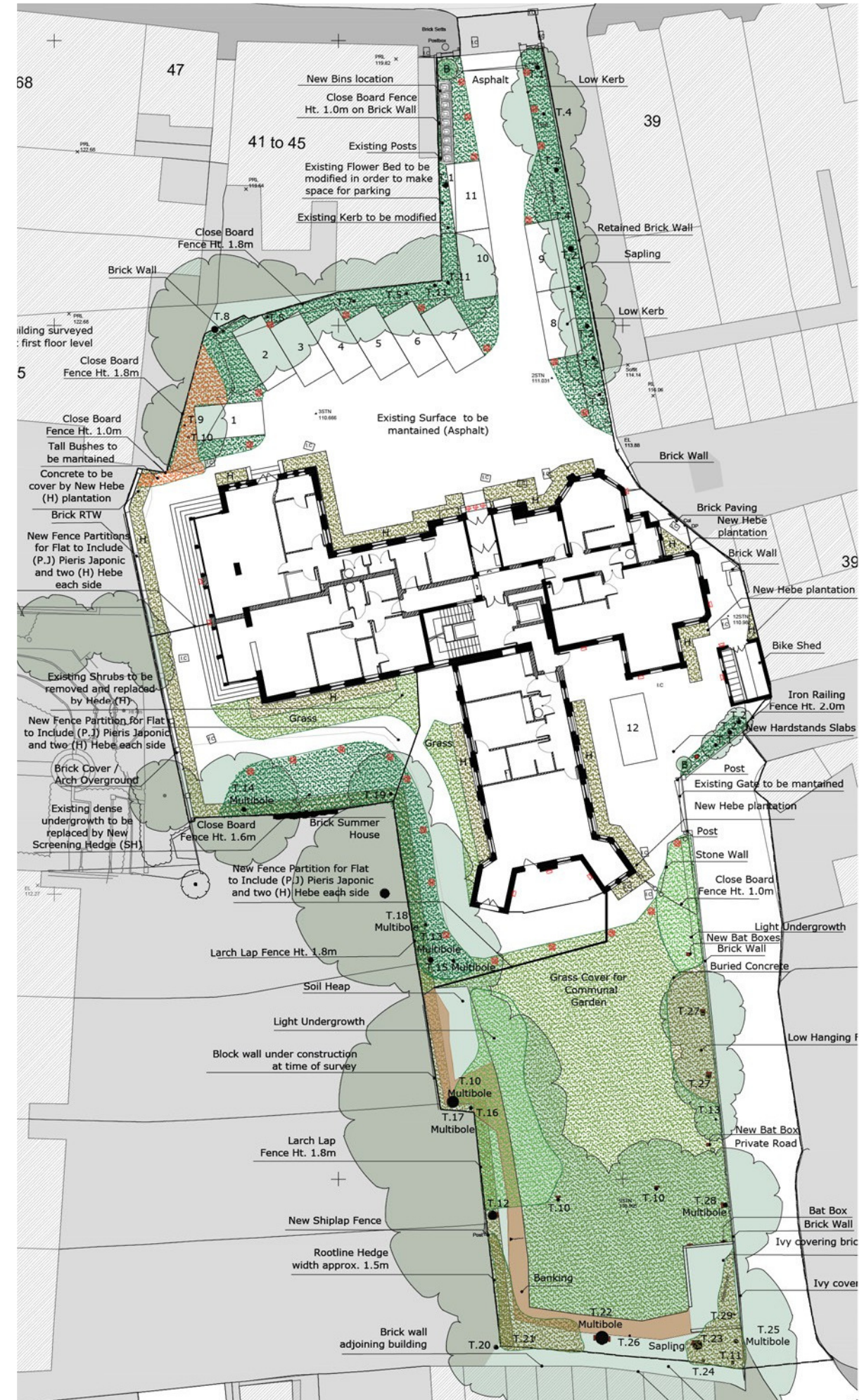
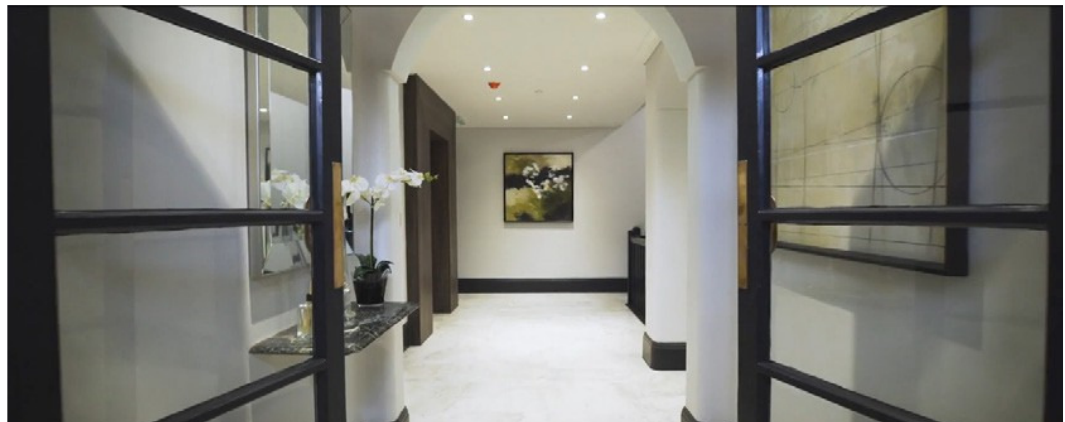
Project Value: £3.5m

Civil Design

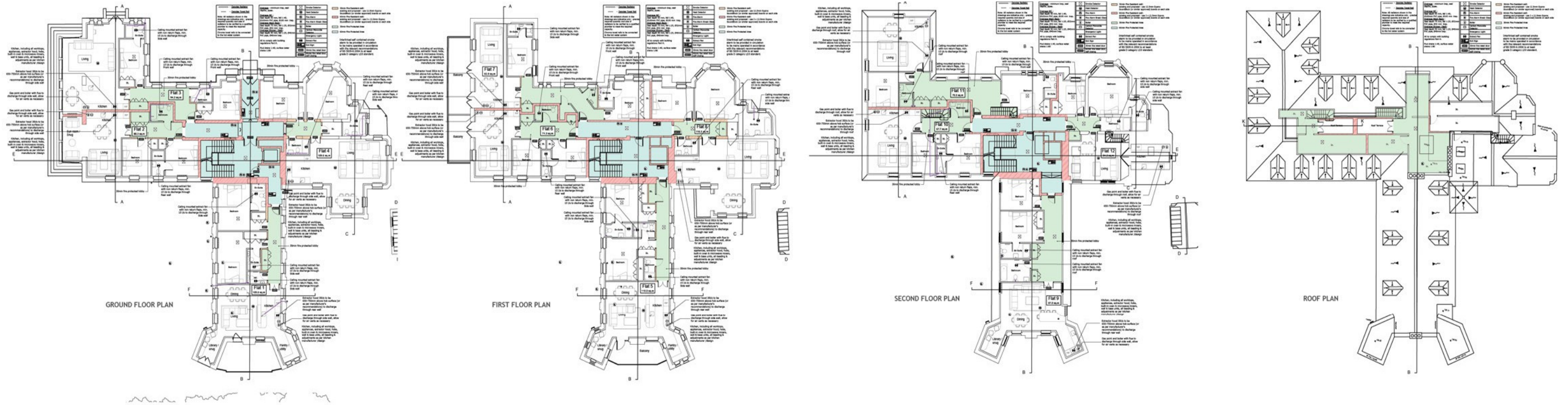
Planning

Structural Design

Landscape Design



# Homoeopathic Hospital



# Maplewood Gardens

## Extensions, Loft Conversion, External and Internal Alterations

Maplewood Gardens, Beaconsfield,

Architectural Design

Planning

Structural Design

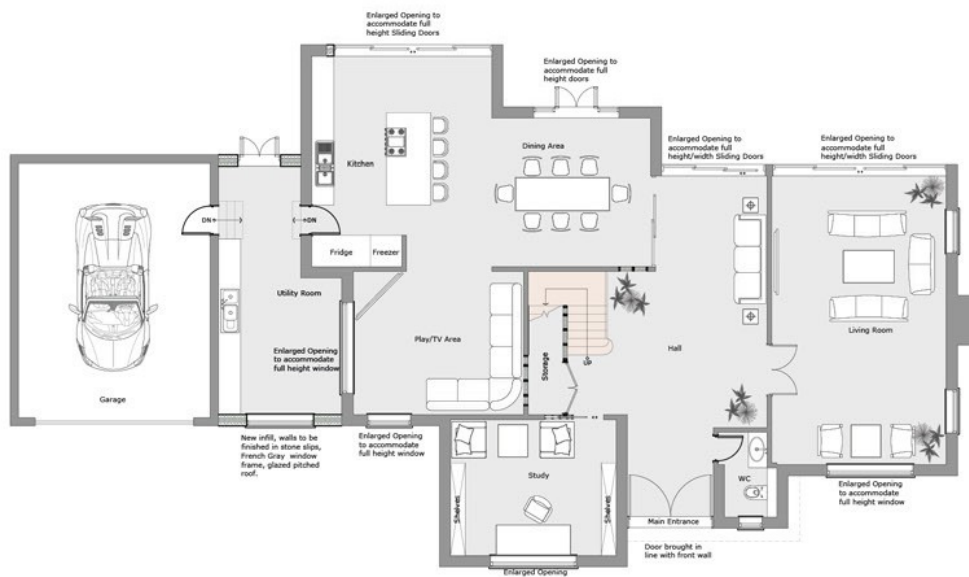
Construction Details



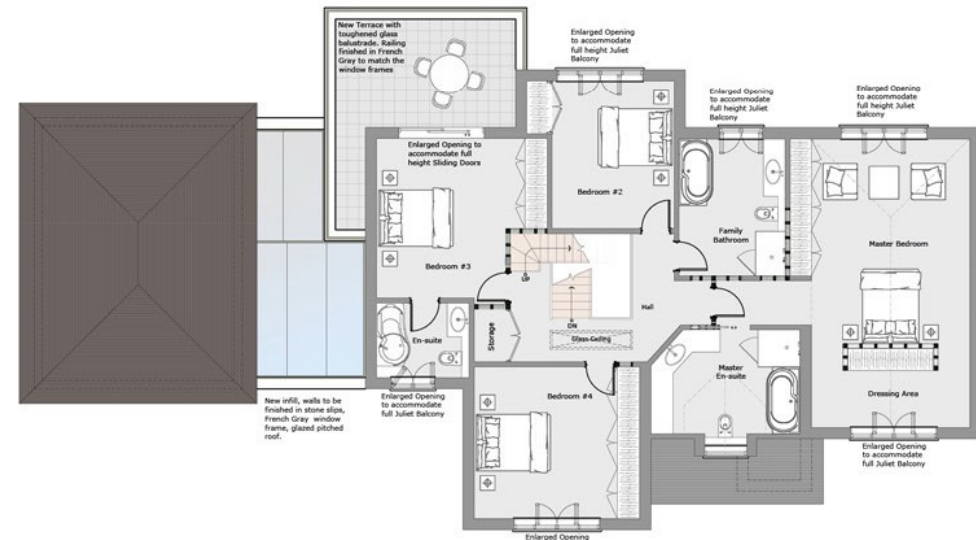
EXISTING FRONT ELEVATION



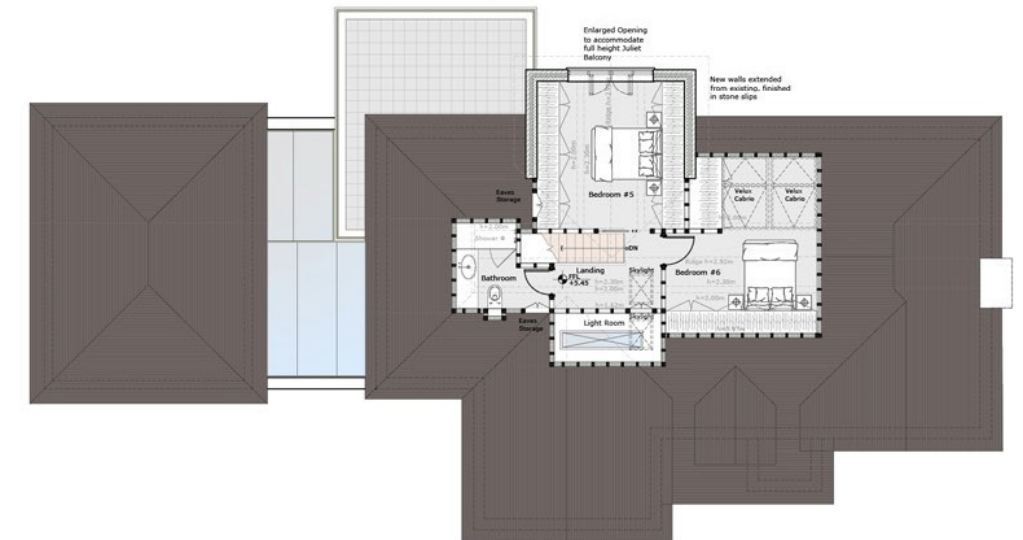
PROPOSED FRONT ELEVATION



PROPOSED GROUND FLOOR PLAN



PROPOSED FIRST FLOOR PLAN



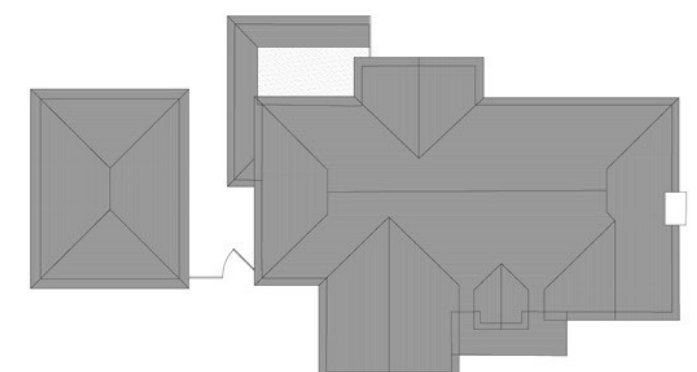
PROPOSED SECOND FLOOR PLAN



EXISTING GROUND FLOOR PLAN



EXISTING FIRST FLOOR PLAN



EXISTING ROOF PLAN